REMARKS

Applicant believes that the teachings of U.S. Patent No. 4,264,980 to Hasler and U.S. Patent No. 4,393,514 to Minakuchi cannot be properly combined to form an operational apparatus and furthermore, that a skilled person would not be compelled to combine the teaching so as to render the invention as claimed obvious.

Hasler teaches a mixer stage 2 comprising a resonant circuit 8 arranged to self-oscillate and to produce an oscillator signal at a frequency corresponding to a *carrier frequency* which is customary for a skilled user that wishes to demodulate the carrier signal from the information carried by the carrier signal. That is, the oscillator signal and an incoming high frequency signal are mixed to produce an intermediate signal at the output 13 for demodulation as is normal in a frequency modulation circuit and which is well understood by a person skilled in the art. The disclosure concentrates on an improved arrangement for mixing of the high frequency signal with the oscillation signal such that the transistor 10 of the Hasler circuit is operated so that the oscillator signal is isolated from the output 13 of the Hasler circuit (see col. 2, lines 42-47 and col. 3, lines 9-14).

Therefore, Hasler operates to oscillate at the carrier frequency, whereas the present invention operates to oscillate at the modulation frequency. This difference is clearly defined in new claim 24, i.e., "a resonator circuit connected to the transistor and configured such that the transistor simultaneously *self- oscillates at substantially the modulation frequency* to produce an oscillation signal".

Furthermore, in the Hasler teaching, the oscillator signal is isolated from the output 13 of the resonant circuit 8, whereas the present invention operates to provide the oscillation signal at the output of the resonator circuit stage which is further coupled to a sensing circuit arranged to

detect the build up of the oscillation signal over a certain period of time so that, if appropriate, the oscillation signal can "wake up" further components conserving power in a sleep mode. This distinction is clearly defined in new claim 24, i.e., "*oscillating sensing means connected to the resonator circuit and arranged to receive the oscillation signal* and to sense characteristics of a build-up of oscillation to indicate a presence of the modulation carrier signal".

The Hasler disclosure also describes the prevention of instabilities in the operating mode of the self-oscillating stage by coupling the tuneable oscillator resonant circuit 17 to the base of the transistor 10 via a capacitor 18 and the oscillator signal is fed back to the emitter of the transistor via a capacitive voltage divider formed by capacitors 19 and 20 (see col. 2, line 64 to col. 13, line 14). That is, a feedback circuit is used to control the oscillator circuit to prevent saturation of the oscillator circuit and such that the oscillator signal is tuneable over a wide frequency range, i.e., able to tune to a plurality of different carrier frequencies. Accordingly, a skilled person would not be compelled to include a quencher circuit, for instance that of the Minakuchi disclosure, in the Hasler circuit as a means of controlling the oscillation circuit as such control is already inherent in the Hasler circuit.

Furthermore, the inclusion of an oscillator quenching means in the Hasler circuit would destroy the purpose of the Hasler circuit, which is to provide a stable oscillator signal at the frequency of the desired carrier signal so that it can be mixed with the high-frequency input signal received in order to provide the intermediate frequency of interest. Accordingly, the oscillator signal needs to remain steady at the frequency of interest to be demodulated so that the correct intermediate frequency can be provided at the output of the circuit rather than "periodically quenching oscillation" as in the present invention. That is, the feedback arrangement of the Hasler teaching ensures constant, rather than periodic, quenching of the oscillator signal.

Minakuchi discloses optimization of the quenching oscillator in response to the instantaneous output of the oscillator in order to ensure substantially maximum sensitivity (see col. 3, lines 23-27) and ensure stable performance at the maximum sensitivity (see col. 3, lines 67-68). That is, the oscillation is maintained at a steady state, rather than building up. This understanding is confirmed by the fact that the conditions of the oscillator section transistor T2 are controlled by a stop detector 9 and control circuit 8. It is the function of these elements to establish the optimum oscillation condition (see col. 4, line 65-68), and to apply control to the oscillator section to maintain the optimum conditions (see col. 4, line 68 to col. 5, line 7). This is achieved by connecting the control circuit 8 (which operates in conjunction with the stop detector 9) to the base terminal of transistor T2 (see col. 5, lines 22-23) and varying the base voltage of the transistor T2 (see col. 6, lines 35-36). Therefore, the quenching of the transistor T2 is not periodic as in the present invention, but rather the performance of the transistor T2 is monitored continuously to provide the optimum oscillation conditions for the transistor T2. This is not the same as "periodically quenching oscillation of the transistor" as claimed in claim 24 of the present application.

Again, the tuning circuit is in agreement with the carrier frequency of the incoming signal (see col. 1, lines 42-45), rather than the modulation frequency.

Therefore, it is argued that the stop detector 9 and control circuit 8 do not sense "the *build-up* of oscillation to indicate a presence of a *modulated carrier signal*", but rather detect and maintain a steady oscillation output from the transistor T2 at the desired carrier frequency.

There is a distinction between the monitoring and maintenance of an optimized oscillation signal as described in Minakuchi and the periodic quenching of an oscillation signal to reset the detection period for a modulation signal which causes an oscillation signal to build up in the resonator circuit stage as claimed in the present application.

Another reason for not being able to combine the circuits disclosed in Hasler and Minakuchi, is that there is only an intermediate signal and not an oscillator signal present at the output 13 of the Hasler apparatus. The inclusion of the stop detector 9 and the control circuit 8 of Minakuchi would not operate on the intermediate signal and hence would not provide control of the oscillator signal.

Accordingly, a combination of the circuits of Hasler and Minakuchi, even if technically feasible, does not render the present claimed invention obvious to a person skilled in the art.

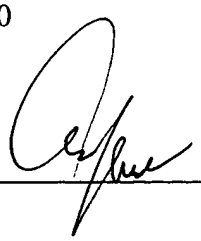
New claims 25-34 are dependent on parent claim 24 and include all the limitations of this claim.

Therefore, new claims 25-34 should be allowable for the reasons set forward with respect to claim 24.

Wherefore, a favorable action is earnestly solicited.

Respectfully submitted,

KIRSCHSTEIN, OTTINGER, ISRAEL & SCHIFFMILLER, P.C.
Attorneys for Applicant(s)
489 Fifth Avenue
New York, New York 10017-6105
Tel: (212) 697-3750
Fax: (212) 949-1690



Alan Israel
Reg. No. 27,564